Relationship between platelet count and 30-day clinical outcomes after percutaneous coronary interventions. Pooled analysis of four ISAR trials.

Platelets play an important role in the development of major adverse cardiac events (MACE) following percutaneous coronary intervention (PCI). The impact of platelet count on the outcome of patients undergoing PCI after pre-treatment with clopidogrel is unknown. The study included 5,256 patients enrolled in four randomized trials - ISAR-REACT, ISAR-SMART2, ISAR-SWEET, and ISAR-REACT2 - which assessed the value of abciximab in patients with coronary artery disease (CAD) undergoing PCI after pre-treatment with 600 mg of clopidogrel. Platelet count was measured at baseline before PCI. Primary endpoint was the 30-day incidence of MACE, secondary endpoint was mortality. The tertiles of platelet counts were: lower tertile (244 x 10^9/L; n = 1,780). The 30-day incidence of MACE was 6.7% (n = 116) among patients of the lower tertile, 6.3% (n = 111) among patients of the middle tertile, and 7.0% (n = 124) among patients of the upper tertile (P = 0.76). The 30-day mortality was 1.2% (n = 22) among patients of the upper tertile, 0.5% (n = 9) among patients of middle tertile and 0.6% (n = 11) among patients of the lower tertile (P = 0.04). Q-wave myocardial infarction occurred in 1.3% of patients (n = 23) in the upper tertile, 0.7% of patients (n = 13) in the middle tertile and 0.5% of patients (n = 8) in the lower tertile (P = 0.02). Platelet count was an independent correlate of
30-day mortality (hazard ratio 2.69, 95% confidence interval 1.08-6.67; P = 0.033 for the third vs. the first tertile). In conclusion, in patients with CAD undergoing PCI after pre-treatment with 600 mg clopidogrel, baseline platelet count predicts 30-day mortality.